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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,321	05/04/2006	Takenori Yoshizawa	1248-0870PUS1	5572

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EXAMINER

KRYCINSKI, STANTON L

ART UNIT	PAPER NUMBER
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3637

NOTIFICATION DATE	DELIVERY MODE
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07/09/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/578,321	Applicant(s) YOSHIZAWA, TAKENORI	
	Examiner Stanton L. Krycinski	Art Unit 3637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-69, 71-78, 80-97 and 99-107 is/are pending in the application.
- 4a) Of the above claim(s) 53-55, 64, 77, 78, 81-83, 92 and 106 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49-52, 56-63, 65-69 and 71-76 is/are allowed.
- 6) ☒ Claim(s) 80, 84-91, 93-97, 99-104 and 107 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 3, 2010 has been entered.

Priority

2. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims **99-101** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 99-101 recite the limitation "the frame section". There is insufficient antecedent basis for this limitation in the claim since claim 84 claims the frame including "an upper contact section" and "a lower contact section" and it is unclear which "frame section" is being referenced (particularly claim 100, line 4) or whether applicant is

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intending to reference "a frame section" of the loading bed. It is noted claim 107 includes a frame section on the loading bed. Appropriate correction or explanation is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims **80, 84-90, 93-100 and 102-104** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (Yoshizawa; US Patent Application Publication No. 2004/0145697 A1) in view of Irwin (US Patent No. 1,941,941).

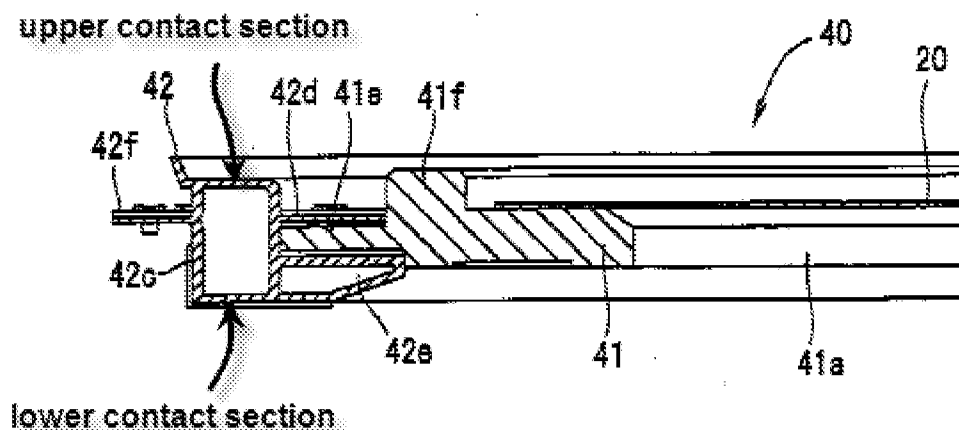


Figure 10A. Yoshizawa et al. (US Patent Application Publication No. 2004/0145697 A1).

8. In regards to claim 84, Yoshizawa teaches a stackable substrate carrying tray (40, Fig 9A) for placing a substrate (20, Fig 10A) horizontally thereon, being stackable by making an upper contact section of the substrate carrying tray contact a lower

surface of an upper tray and by making a lower contact section of the substrate carrying tray contact an upper surface of a lower tray, comprising:

a loading bed (41, Fig 10A) for loading the substrate (20); and

a frame (42) provided to surround an outer edge (41e) of the loading bed (41), wherein the frame (42) includes the upper contact section and the lower contact section as illustrated in figure 10A above.

9. Yoshizawa fails to teach the upper contact section having an upper inclined section and the lower contact section having a lower inclined section, wherein the upper contact section contacts but does not fixedly engage the lower contact section of the upper tray and thereby enables free sliding of the upper tray on the upper contact section, and wherein the upper contact section is formed in a shape enabling to move back the upper tray to a standard situation by making the lower surface of the upper tray move back on the upper contact section of the stackable substrate carrying tray by use of gravity and inclination of the upper contact section, when the upper tray has moved on the stackable substrate carrying tray so as to go out of the standard situation due to moving of the lower surface of the upper tray on the upper contact section of the stackable substrate carrying tray, the standard situation being a situation wherein a center of gravity of the upper tray is positioned right above a center of gravity of the stackable substrate carrying tray.

10. Irwin teaches a stackable substrate carrying tray having an upper contact section (26a, Fig 7) having an upper inclined section, and a lower contact section (27a, Fig 7) having a lower inclined section. It is noted that the contact sections in figure 7 are

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formed as a rib and groove around the circumference of the frame (12; Page 2, Lines 26-29). Furthermore, one of ordinary skill in the art would recognize that the upper contact section contacts but does not fixedly engage the lower contact section of the upper tray and thereby enables free sliding of the upper tray on the upper contact section (particularly in the vertical direction), and wherein the upper contact section is formed in a shape enabling to move back the upper tray to a standard situation by making the lower surface of the upper tray move back on the upper contact section of the stackable substrate carrying tray by use of gravity and inclination of the upper contact section, when the upper tray has moved on the stackable substrate carrying tray so as to go out of the standard situation due to moving of the lower surface of the upper tray on the upper contact section of the stackable substrate carrying tray, the standard situation being a situation wherein a center of gravity of the upper tray is positioned right above a center of gravity of the stackable substrate carrying tray. For instance, one of ordinary skill in the art would recognize that when an upper tray is removed or dislodged from a bottom tray and subsequently placed back upon the lower tray or comes back into contact with the lower tray, the inclined sections of the upper tray would slide upon the inclined sections of the lower tray, thereby aligning the trays by use of gravity and the inclination of the contact sections.

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshizawa's tray to have an upper inclined section on the upper contact section and a lower inclined section on the lower contact section wherein the upper contact section contacts but does not fixedly engage the lower contact section

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of the upper tray and thereby enables free sliding of the upper tray on the upper contact section, and wherein the upper contact section is formed in a shape enabling to move back the upper tray to a standard situation by making the lower surface of the upper tray move back on the upper contact section of the stackable substrate carrying tray by use of gravity and inclination of the upper contact section, when the upper tray has moved on the stackable substrate carrying tray so as to go out of the standard situation due to moving of the lower surface of the upper tray on the upper contact section of the stackable substrate carrying tray, the standard situation being a situation wherein a center of gravity of the upper tray is positioned right above a center of gravity of the stackable substrate carrying tray, for the purpose of increasing a maximum number of stackable trays and maintaining a sufficiently stable stack as suggested by Irwin (Column 1, Lines 10-20).

12. In regards to claim 80, modified Yoshizawa teaches the frame (42) includes a protrusion (42f) that engages a chuck for catching the stackable substrate carrying tray, the protrusion (42f) outwardly protruding from an outer edge surface of a peripheral edge of the frame (42; Page 9, Paragraph 0138).

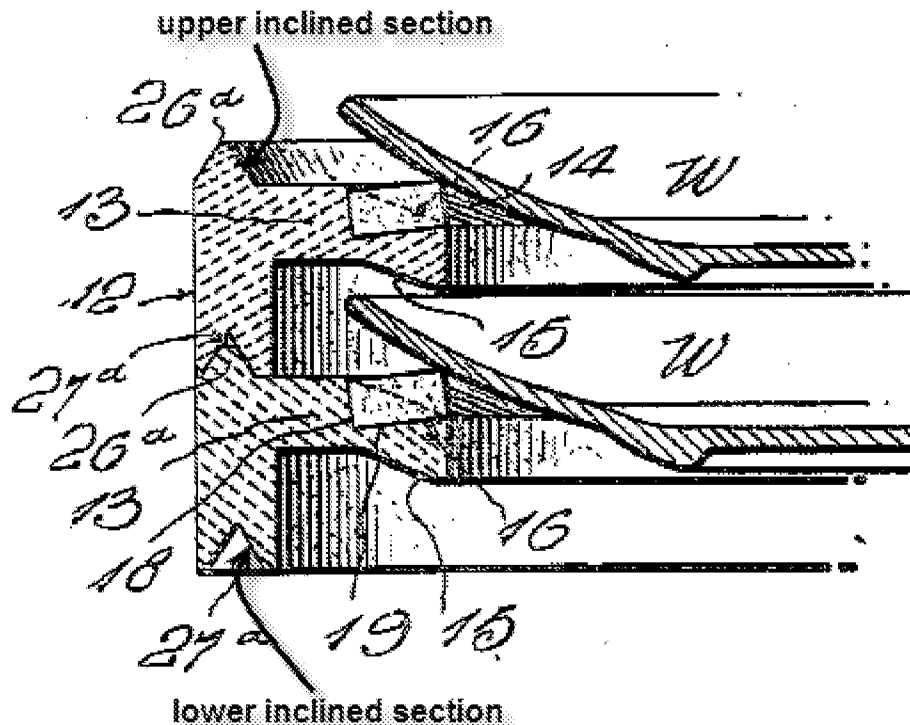


Figure 7. Irwin (US Patent No. 1,941,941).

13. In regards to claims 85 and 86, modified Yoshizawa teaches the lower inclined section has a same inclined direction as that of the upper inclined section as modified by Irwin and illustrated in figure 7 above (claim 85), and wherein the upper and lower contact section are disposed on a peripheral edge of the substrate carrying tray as modified by Irwin and illustrated in figure 7 above (claim 86).

14. In regards to claims 87 and 88, modified Yoshizawa teaches the upper and lower contact sections are different from a protrusion (42f) that engages a chuck for catching the stackable substrate carrying tray (claim 87), and

the stackable substrate carrying tray (40) includes a protrusion (42f) that engages a chuck for catching the stackable substrate carrying tray, the protrusion (42f) outwardly protruding from an outer edge surface of the peripheral edge of the stackable

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substrate carrying tray (40), the outer edge surface is formed, in a plane manner, in such a direction that becomes a vertical direction when the stackable substrate carrying tray (40) is placed horizontally, and the upper and lower contact sections are provided inwardly from the outer edge surface (claim 88).

15. In regards to claims 89, 90 and 93, modified Yoshizawa teaches an upper inclined section is provided entirely on an upper surface of an upper contact section (26a, Fig 7 of Irwin), and a lower inclined section provided entirely on a lower surface of a lower contact section (27a, Fig 7 of Irwin) as recited in claim 89; and

an upper inclined section is provided on a portion including an outer edge or inner edge of an upper surface of the upper contact section (26a, Fig 7 of Irwin), and a lower inclined section is provided on a portion of the lower contact section (27a, Fig 7 of Irwin), the portion including an edge corresponding to an edge on which the upper inclined section is disposed as recited in claim 90; and

upper and lower inclined sections have an identical shape at respective contact portions as recited in claim 93.

16. In regards to claim 94, modified Yoshizawa teaches the upper contact section contacting the upper substrate carrying tray which is stacked above said substrate carrying tray by only the surface of the upper contact section and the lower contact section contacting the lower substrate carrying tray which is stacked below said substrate carrying tray by only the surface of the lower contact section, and wherein the surface of the upper contact section and the surface of the lower contact section have the same surface area, the same shape, and the same inclination as modified by Irwin.

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17. In regards to claim 95, modified Yoshizawa teaches the substrate carrying tray (40) has such a shape that the upper substrate carrying tray is not in contact with the substrate (20) when the substrate is placed on said carrying tray.

18. In regards to claim 96, modified Yoshizawa teaches the substrate carrying tray (40) has such a shape that there is a space between a lower end of the first substrate carrying tray and an upper end of the substrate (20) when the substrate is placed on said substrate carrying tray.

19. In regards to claim 97, modified Yoshizawa teaches the upper and lower contact sections each has such a shape that a space inside the frame (42) is an enclosed space when the substrate carrying tray (40), the upper tray and the lower tray are stacked on each other.

20. In regards to claim 99, modified Yoshizawa teaches the frame section (41f) of the loading bed (41) has such a shape that the upper substrate carrying tray is not in contact with the substrate (20) when the substrate (20) is placed on said substrate carrying tray (40).

21. In regards to claim 100, modified Yoshizawa teaches the frame section (41f) of the loading bed (41) has such a shape that there is a space between a lower end of the upper substrate carrying tray and an upper end of the frame section (41f).

22. In regards to claim 102, modified Yoshizawa teaches the upper and lower contact sections each has such a shape that the upper and lower contact sections, connected to each other, constitute a post (cross-section of 42c) which extends

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vertically when the substrate carrying tray (40), the upper tray and the lower tray are stacked on each other.

23. In regards to claim 103, modified Yoshizawa teaches two or more substrates (20) can be vertically placed and carried by a structure that three or more stackable substrate carrying trays (40) are stacked.

24. In regards to claim 104, modified Yoshizawa teaches the upper contact section contacting the upper substrate carrying tray which is stacked above said substrate carrying tray (40) by only an angled portion of the upper contact section and the lower contact section contacting a lower substrate carrying tray which is stacked below said substrate carrying tray (40) by only an angled portion of the lower contact section, and wherein the angled portion of the upper contact section and the angled portion of the lower contact section have equal width and the same inclination as modified by Irwin.

25. Claim **91** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (Yoshizawa; US Patent Application No. 2004/0145697 A1) in view of Irwin (US Patent No. 1,941,941) as applied to claim 84 above, and in further view of Bradley (US Patent No. 738,980).

26. Yoshizawa, modified by Irwin, fails to teach at least one of the upper and lower inclined sections are inclined in a plane manner (extending in a plane). Bradley teaches upper and lower sections (10 and 11) are inclined in a plane manner.

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Yoshizawa's tray to have at least one of the upper and lower inclined contact sections inclined in a plane manner because Yoshizawa's

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contacting surfaces are in a plane manner to accommodate square substrates, and therefore having the inclined surface in a plane manner would have been desirable based on different shapes as suggested by Irwin (Col 1, Lines 3-7).

28. Claims **101 and 107** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (Yoshizawa; US Patent Application Publication No. 2004/0145697 A1) and Irwin (US Patent No. 1,941,941) as applied to claim 84 above, and in further view of Smith (US Patent No. 2,233,434).

29. Yoshizawa, modified by Irwin, teaches the loading bed (41) includes a frame section (41f) whose inner perimeter is larger than an outer perimeter of the substrate (20) as recited in claim 107, and the upper end of the frame section (41f) is higher than an upper end of the substrate (20) placed on the substrate carrying tray (40) as recited in claim 101.

30. Yoshizawa, modified by Irwin, fails to teach an upper end or upper surface of the frame section (41f) is lower than the upper contact section or lower than the upper end of the contact section as recited in claims 101 and 107.

31. Smith teaches a stackable substrate carrying tray (1) having a loading bed (25) with a frame section (15), wherein the upper surface of the frame section (15) is lower than an upper contact section of a frame (3).

32. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Yoshizawa's tray to have the upper surface of the frame section being lower than the upper contact section as suggested by Smith, for the purpose of allowing a substrate with a larger height to be held on the loading bed

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without contacting an upper tray due to the upper contact section being positioned higher.

Response to Arguments

33. Applicant's arguments filed June 3, 2010 have been fully considered but they are not persuasive.

34. In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, the examiner has relied upon the teachings of Irwin and the knowledge one of ordinary skill in the art would have had at the time of the invention to modify Yoshizawa.

35. The applicant has argued that Irwin's contact sections fixedly engage with one another because they comprise a projection and a hole, thereby not allowing the trays to freely slide back to a standard situation due to gravity and inclination. However, it is noted that the contact sections in figure 7 are formed as a rib and groove around the circumference of the frame (12; Page 2, Lines 26-29). The examiner relies on the knowledge of one of ordinary skill in the art to recognize that when an upper tray is removed or dislodged from a bottom tray and subsequently placed back upon the lower

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tray or comes back into contact with the lower tray, the inclined sections of the upper tray would slide upon the inclined sections of the lower tray, thereby aligning the trays by use of gravity and the inclination of the contact sections. Furthermore, Irwin's inclined contact sections provide for a stable stack of trays to remain intact upon movement (Col 1, Lines 10-16), therefore the trays are urged in a standard situation during the movement of the stack.

36. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The applicant argues that having the contact surfaces of Yoshizawa sloped would cause the frame section (41f) to contact an upper tray. However, the examiner disagrees because figure 10B of Yoshizawa shows the frame section (41f) of the lower tray not in contact with the upper tray. In addition, Irwin teaches the height of the loading bed (flange) with respect to the contact sections is variable (Col 3, Lines 29-33). In determining obviousness, it is not necessary that the inventions of the references be physically combinable to render obvious the invention under review (*In re Sneed*, 710 F.2d 1544,1550 (Fed. Cir. 1983)). In particular, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention be expressly suggested in any one or all references (*In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). Furthermore, a person of ordinary skill in the art is also a person of ordinary creativity, not an

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automation (*KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1742 (2007)). In an obviousness analysis it is not necessary to find precise teachings in the prior art directed to the specific subject matter claimed because inferences and creative steps that a person of ordinary skill in the art would employ can be taken into account (*Id.* at 1741).

37. The applicant also argues that the stud (11) and stud recess (9) of Smith teaches away from the claimed invention. However, the examiner does not rely on Smith to teach the inclined contact sections.

38. Furthermore, the applicant requests rejoinder of the withdrawn claims. Reconsideration and examination of the withdrawn claims will be granted when the applicant's application is in condition for allowance.

Conclusion

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanton L. Krycinski whose telephone number is 571-270-5381. The examiner can normally be reached on Monday-Thursday, 8:30 AM to 7:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darnell Jayne can be reached on 571-272-7723. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. L. K./
Examiner, Art Unit 3637

/Darnell M Jayne/
Supervisory Patent Examiner, Art
Unit 3637